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Chemical ecology underlying cotton topping

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Research conducted in Mali shows that manual topping (the removal of the terminal main stem of cotton plants) strongly reduces bollworm and phloem-feeding infestations in cotton fields and shows no detrimental effect on crop yield. Interestingly, there are not significant differences in terms of pest infestation reductions when farmers top 100% or only 20% of the plants from their cotton field. The latter result suggests that cotton topped plants may emit airborne chemical compounds that warn and prepare their neighbors for an impending attack and which may repel herbivores and/or attract natural enemies. The work that I will present here focus on some preliminary results on the mechanisms underlying topping as well as on the ecological consequences of topping on one of the major cotton pests, *Helicoverpa armigera*. This work explores the effect of cotton topping on the plant production of certain toxic secondary compounds, the production of extra-floral nectar and the emission of VOCs. The effect of topping on larval development, survival and on the oviposition preferences of adults of *H. armigera* is also explored.